

Lubricator method

1. Disconnect the cable from the throttle lever (Figure 22), the rear brake lever (Figure 23) and, on models so equipped, the front brake lever (Figure 24).
2. Attach a lubricator following the manufacturer's instructions.
3. Insert the nozzle of the lubricant can in the lubricator, press the button on the can and hold it down until the lubricant begins to flow out of the other end of the cable.

NOTE

Place a shop cloth at the end of the cable(s) to catch all excess lubricant that will flow out.

4. Remove the lubricator, reconnect the cable and adjust the cable as described in this chapter.

Miscellaneous Lubrication Points

Lubricate the front brake lever (models so equipped), rear brake lever and rear brake pedal pivot point.

PERIODIC MAINTENANCE

Drive Chain Adjustment

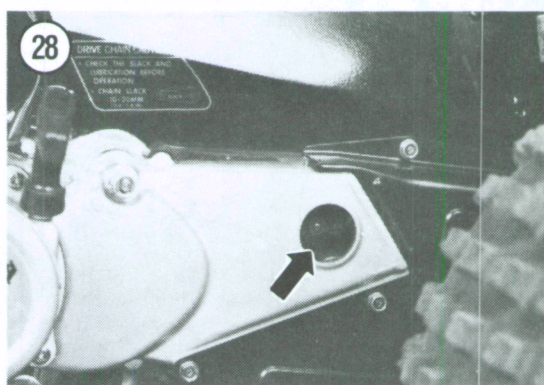
The drive chain should be checked and adjusted every 30 days of operation.

NOTE

Drive chain removal, inspection, cleaning and installation is covered in Chapter Eight.

1973-1974 ATC70; ATC90; 1979-1980 ATC110

1. Set the ATC on level ground.
2. On ATC90 and 1979-1980 ATC110 models, remove the seat/rear fender assembly.
- 3A. On 1973-1974 ATC70 models, loosen the drive chain tensioner lock bolt (Figure 26). Using your



hand, pull or push the tensioner plate and shaft upward until it will no longer move; tighten the lock bolt.

3B. On ATC90 and 1979-1980 ATC110 models, loosen the drive chain tensioner locknut (Figure 27). Using your hand, pull or push the tensioner plate and shaft upward until it will no longer move; tighten the locknut.

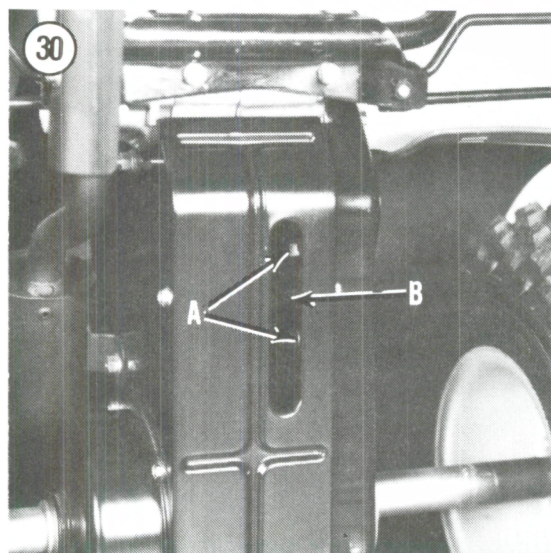
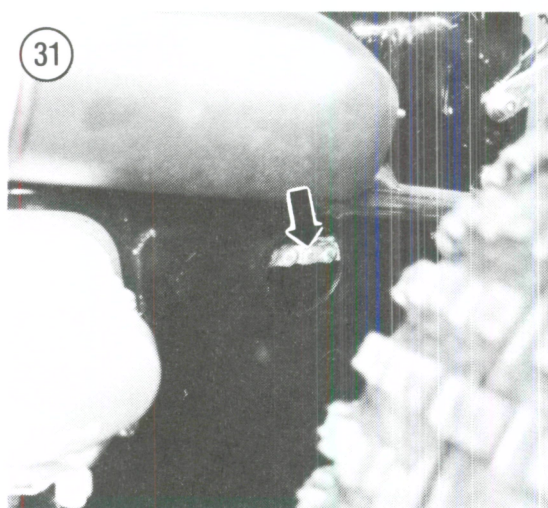
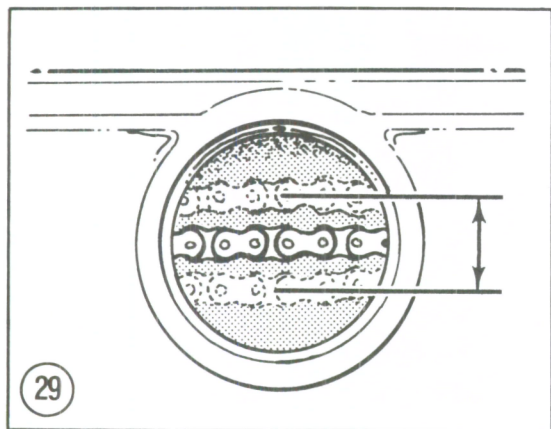
4. Remove the drive chain inspection hole cover (Figure 20) on the left-hand side of the drive chain case.

5. Through the inspection hole (Figure 28), push up on the drive chain and then let it fall back down. The correct amount of free play is 10-20 mm (3/8-3/4 in.); refer to Figure 29.

6. If additional adjustment is necessary, repeat Step 3.

CAUTION

On a well run-in ATC, if the drive chain becomes slack shortly after being properly adjusted, chances are the drive chain tensioner arm and shaft need replacing. The splines on the shaft and the matching teeth on the chain tensioner arm tend to flatten out after long hard use and can no longer grab



onto each other sufficiently to maintain proper tension. If this condition exists refer to Chapter Eight and replace the tensioner shaft as described in the rear axle removal and disassembly procedure.

7. Move the ATC forward to move the drive chain to another position. Recheck the adjustment; chains rarely wear or stretch evenly and, as a result, the free play will not remain constant over the entire chain. If the drive chain cannot be adjusted within these limits, it is excessively worn and stretched and should be replaced as described in Chapter Eight.
8. Install the inspection hole cover.

1978-on ATC70

1. Set the ATC on level ground and shift the transmission into NEUTRAL.

2. Remove the drive chain inspection hole cover (Figure 20) on the left-hand side of the drive chain case.
3. Through the inspection hole, push up on the drive chain and then let it fall back down. The correct amount of free play is 10-20 mm (3/8-3/4 in.); refer to Figure 29.
4. To adjust the tension, loosen the drive chain adjuster locknuts (A, Figure 30) and move the adjuster (B, Figure 30) until the correct amount of free play is achieved.
5. Tighten the locknuts to 25-33 N•m (18-23 ft.-lb.).
6. Move the ATC forward to move the drive chain to another position. Recheck the adjustment; chains rarely wear or stretch evenly and, as a result, the free play will not remain constant over the entire chain. If the drive chain cannot be adjusted within these limits, it is excessively worn and stretched and should be replaced as described in Chapter Eight.
7. Install the inspection hole cover.

1981-1983 ATC110

1. Set the ATC on level ground and set the parking brake.
2. Shift the transmission into NEUTRAL.
3. Remove the seat/rear fender assembly.
4. Remove the drive chain inspection hole cover (Figure 31) on the left-hand side of the drive chain case.
5. Through the inspection hole, push up on the drive chain and then let it fall back down. The correct amount of free play is 10-20 mm (3/8-3/4 in.); refer to Figure 29.

6. To adjust the tension, loosen the drive chain adjuster locknut (A, **Figure 32**) and move the tensioner plate (B, **Figure 32**) until the correct amount of free play is achieved.

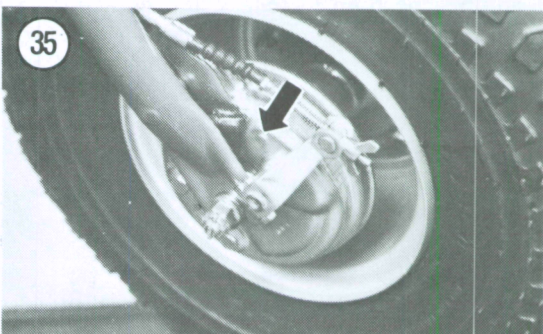
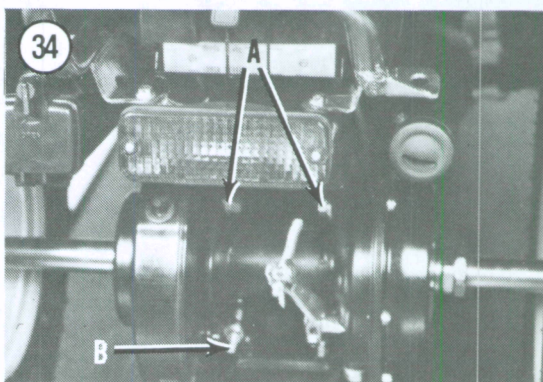
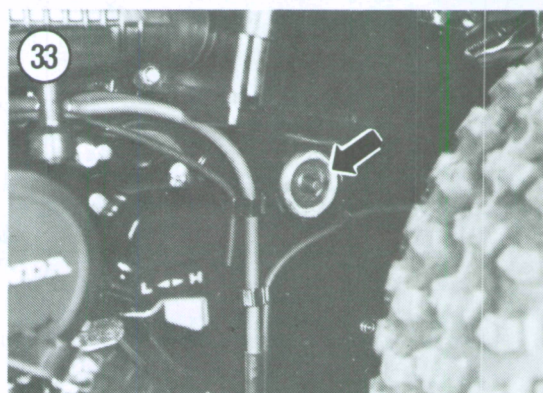
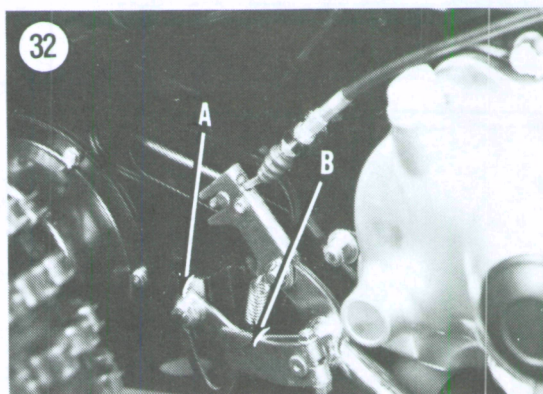
NOTE

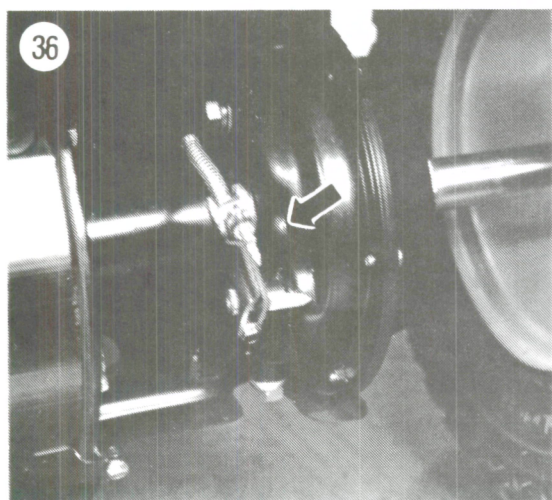
Move the tensioner plate up to decrease tension or move it down to increase tension.

7. Tighten the locknut to 35-45 N•m (25-33 ft.-lb.).
8. Move the ATC forward to move the drive chain to another position. Recheck the adjustment; chains rarely wear or stretch evenly and, as a result, the free play will not remain constant over the entire chain. If the drive chain cannot be adjusted within these limits, it is excessively worn and stretched and should be replaced as described in Chapter Eight.
9. Install the inspection hole cover.

1984 ATC110; 1984 ATC125M

1. Set the ATC on level ground and set the parking brake.
2. Shift the transmission into NEUTRAL.
3. Remove the seat/rear fender assembly.
4. Remove the drive chain inspection hole cover (**Figure 33**) on the left-hand side of the drive chain case.
5. Through the inspection hole, push up on the drive chain and then let it fall back down. The correct amount of free play is 10-20 mm (3/8-3/4 in.); refer to **Figure 29**.
6. To adjust the tension, loosen the rear axle bearing holding bolts (A, **Figure 34**) (2 on each side) and turn the drive chain adjustment nut (B, **Figure 34**) in or out as required. Turn the nut *clockwise* will decrease free play and *counterclockwise* will increase free play.
7. Tighten the bearing holding bolts to 50-70 N•m (36-51 ft.-lb.).
8. Move the ATC forward to move the drive chain to another position. Recheck the adjustment; chains rarely wear or stretch evenly and, as a result, the free play will not remain constant over the entire chain. If the drive chain cannot be adjusted within these limits, it is excessively worn and stretched and should be replaced as described in Chapter Eight.
9. Install the inspection hole cover.
10. After the drive chain has been adjusted, the rear brake pedal free play must be adjusted as described in this chapter.





Brake Lining Inspection

Every 30 days of operation, inspect the front (models so equipped) and rear brake lining wear indicator. Apply the rear brake fully. If the wear indicator on the brake arm aligns with the reference mark on the brake panel, the brake shoes must be replaced. Refer to **Figure 35** for the front or **Figure 36** for the rear brake. Refer to Chapter Nine for service procedures.

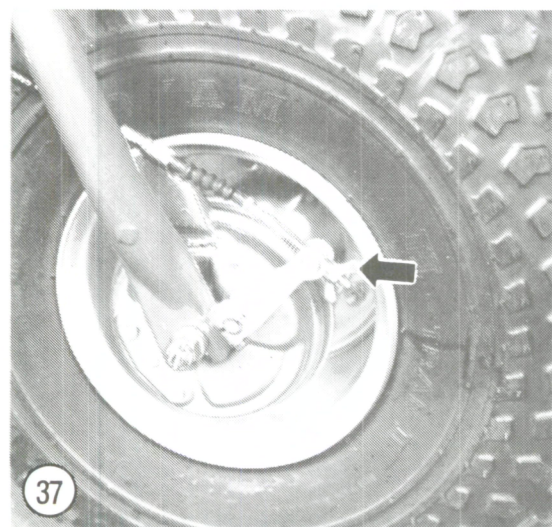
Front Brake Lever Adjustment (Models So Equipped)

The front brake lever should be inspected every 30 days of operation and adjusted if necessary to maintain the proper amount of free play. The brake lever should travel about 15-20 mm (5/8-3/4 in.) before the brake shoes come in contact with the brake drum, but must not be adjusted so closely that the brake shoes contact the brake drum with the lever relaxed.

If adjustment is necessary, turn the adjustment nut (**Figure 37**) in or out to achieve the correct amount of free play.

NOTE

Make sure the cut-out relief in the adjustment nut is properly seated on the brake arm pivot pin.



Rear Brake Adjustment

The rear brake lever should be inspected every 30 days of operation and adjusted if necessary to maintain the proper amount of free play. The brake lever should travel the specified amount of travel before the brake shoes come in contact with the brake drum, but must not be adjusted so closely that the brake shoes contact the brake drum with the lever relaxed.

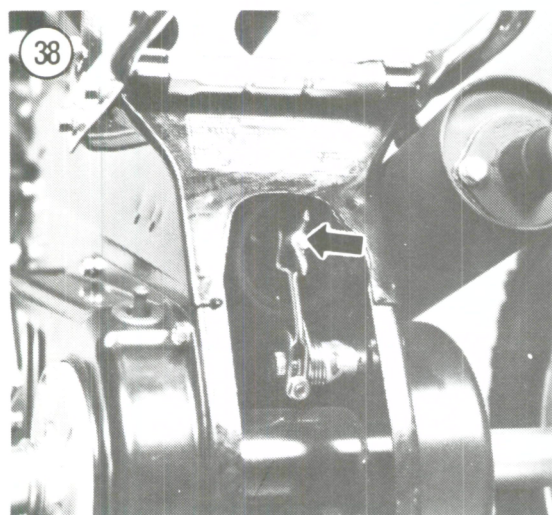
ATC70

On the ATC70 the rear brake is operated only with the lever located on the left-hand side of the handlebar. There is no brake pedal.

The brake lever should travel about 15-20 mm (5/8-3/4 in.) before the brake shoes come in contact with the brake drum. If adjustment is necessary, turn the adjustment nut (**Figure 38**) on the end of the brake cable, in or out to achieve the correct amount of free play.

NOTE

Make sure the cut-out relief in the adjustment nut is properly seated on the brake arm pivot pin.



NOTE

If the correct amount of free play cannot be achieved, the brake cable has stretched and must be replaced; see Chapter Nine.

ATC90, ATC110 and ATC125M

The ATC90, ATC110 and ATC125M are equipped with both a left-hand brake lever and a foot-operated brake pedal. The brake pedal should travel about 15-20 mm (5/8-3/4 in.) before the brake shoes come in contact with the brake drum. If adjustment is necessary, perform the following steps in this order.

1. Set the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Release the parking brake.
4. Depress the brake pedal until the brake shoes come in contact with the brake drum. The correct amount of free play is 15-20 mm (5/8-3/4 in.) as shown in **Figure 39**.
5. If adjustment is necessary, turn the adjustment nut (**Figure 40**) on the end of the brake rod in or out to achieve the correct amount of free play.

NOTE

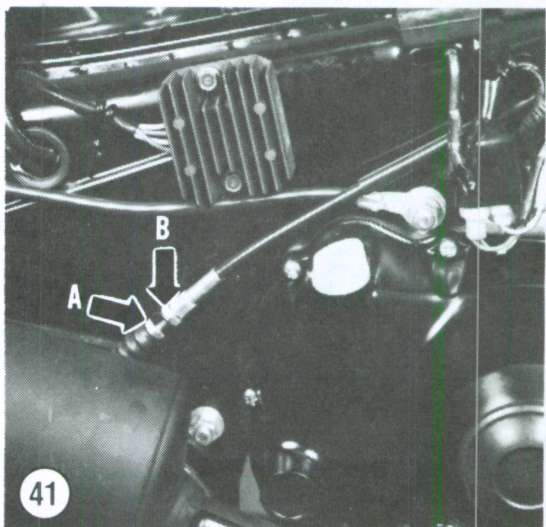
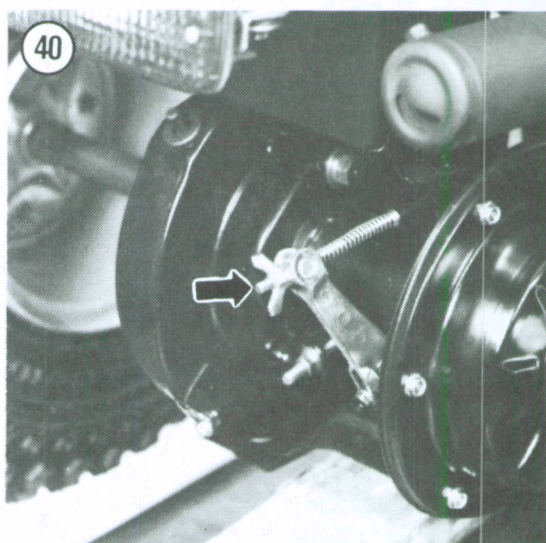
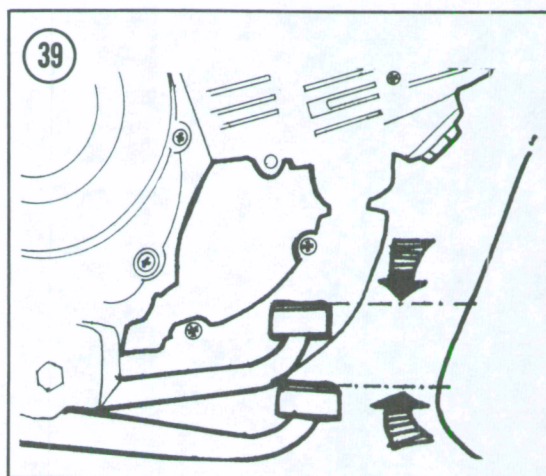
Make sure the cut-out relief in the adjustment nut is properly seated on the brake arm pivot pin.

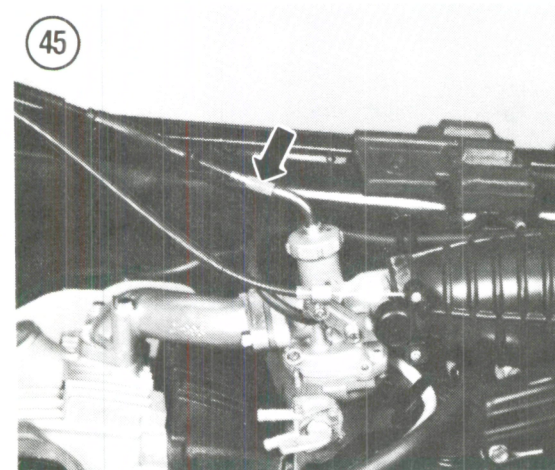
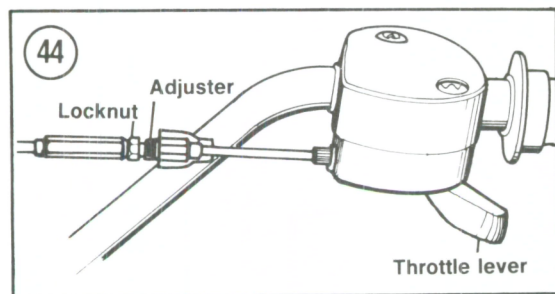
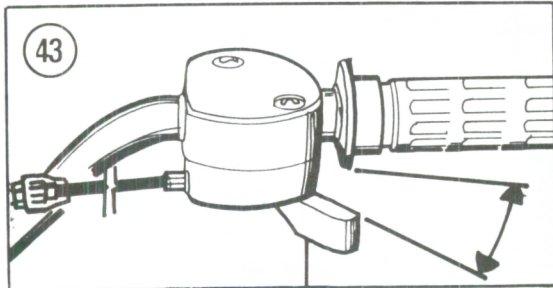
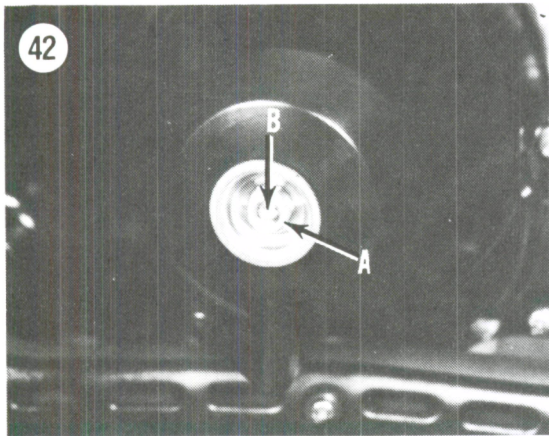
The brake lever must be adjusted after the brake pedal is adjusted.

- 6A. On ATC90 models, the brake lever should travel about 20-30 mm (3/4-1 1/4 in.) before the brake shoes come in contact with the brake drum.
- 6B. On ATC110 and ATC125M models, the brake lever should travel about 15-20 mm (5/8-3/4 in.) before the brake shoes come in contact with the brake drum.
7. If adjustment is necessary, perform the following:
 - a. At the brake cable, loosen the locknut (A, **Figure 41**).
 - b. Turn the adjustment nut (B, **Figure 41**) on the brake cable in or out to achieve the correct amount of free play.
8. After adjusting both the pedal and lever free play, apply the parking brake and make sure it holds the ATC securely in place. If necessary, repeat this procedure until the parking brake operates properly.

NOTE

If the parking brake does not operate properly or the correct amount of free play cannot be achieved, the brake





cable has stretched and must be replaced; refer to Chapter Nine.

Clutch Mechanism Adjustment

This is the only clutch adjustment provided for the automatic (centrifugal) clutch. This adjustment takes up slack due to clutch component wear. The adjustment of the clutch must be made with the engine off.

1. Remove the rubber protective cap from the right-hand crankcase cover.
2. Loosen the locknut (A, **Figure 42**) on the clutch adjusting screw.
3. Slowly turn the clutch adjuster screw (B, **Figure 42**) *clockwise* 1 full turn.
4. Slowly turn the clutch adjuster screw *counterclockwise* until *slight resistance* is felt, then stop.
5. Turn the adjuster screw *clockwise* 1/8 turn.

NOTE

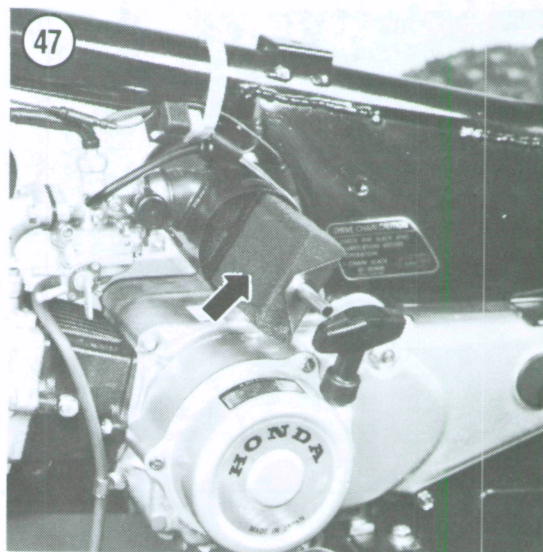
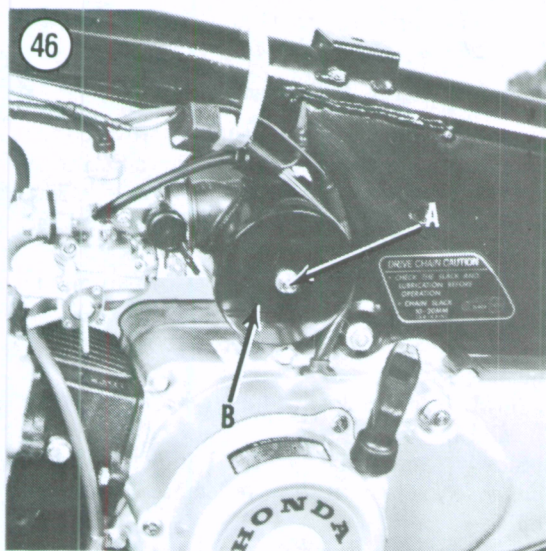
Make sure the adjuster screw does not move when tightening the locknut.

6. Hold the adjuster screw in this position and tighten the locknut securely.
7. Test ride the ATC to make sure the clutch is operating correctly; readjust if necessary.
8. If the clutch cannot be properly adjusted using this method, some of the internal components in the clutch are worn and need replacing; refer to Chapter Five.

Throttle Lever Adjustment

The throttle lever should have 5-10 mm (3/16-3/8 in.) free play measured at the tip of the lever (**Figure 43**).

1. On 1982-on ATC110 models, if adjustment is necessary, perform the following:
 - a. At the upper end of the throttle cable, loosen the locknut and turn the adjuster (**Figure 44**) in either direction to achieve the correct amount of free play.
 - b. Tighten the locknut.
2. On all other models, if adjustment is necessary, perform the following:
 - a. Remove the seat/rear fender assembly.
 - b. Remove the fuel tank as described in Chapter Six.
 - c. At the carburetor, slide up the rubber boot where the throttle cable enters the top of the carburetor.
 - d. Turn the adjuster (**Figure 45**) to obtain the correct amount of free play. Looking down onto the carburetor top, turning the adjuster *clockwise* will increase free play while *counterclockwise* will decrease free play.



- e. Slide the rubber boot back down onto the carburetor top.
- f. Check the throttle cable from grip to carburetor. Make sure it is not kinked or chafed. Check for smooth operation of the throttle from the open to closed position while moving the handlebar from one limit to the other.
- g. If the throttle cable requires replacing, refer to Chapter Six.
- h. Reinstall the fuel tank and seat/rear fender assembly.

Air Filter Element Cleaning

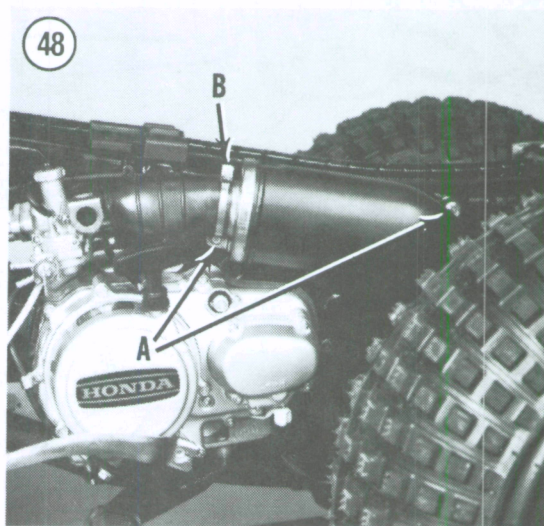
The air filter element should be removed and cleaned every 30 operating days and replaced whenever it is damaged or starts to deteriorate.

The air filter removes dust and abrasive particles before the air enters the carburetor and engine. Without the air filter, very fine particles could enter into the engine and cause rapid wear of the piston rings, cylinder and bearings. They also might clog small passages in the carburetor. Never run the ATC without the element installed.

Proper air filter servicing can ensure long service from your engine.

ATC70

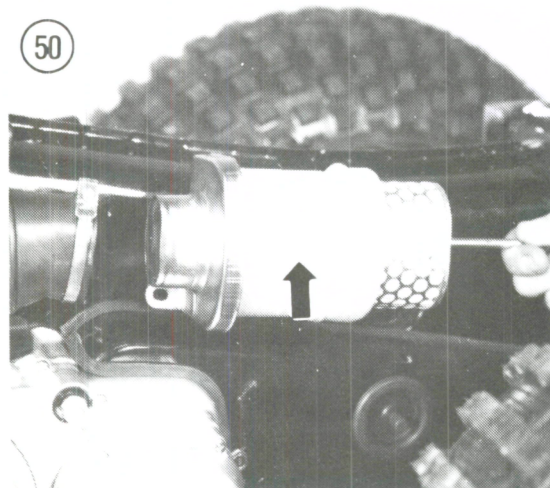
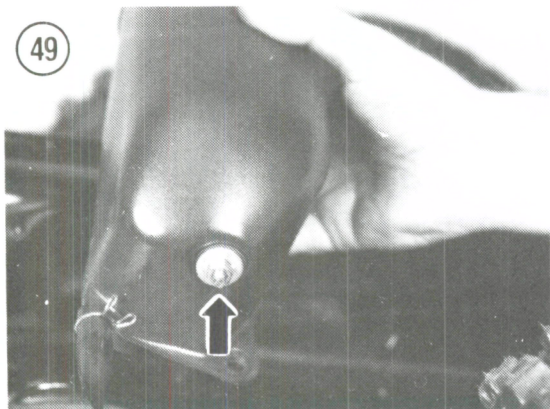
1. Remove the acorn nut (A, **Figure 46**) securing the filter cover and remove the cover (B, **Figure 46**).
2. Withdraw the filter element assembly from the air filter case (**Figure 47**).
3. Remove the inner pipe from the element holder and remove the element.



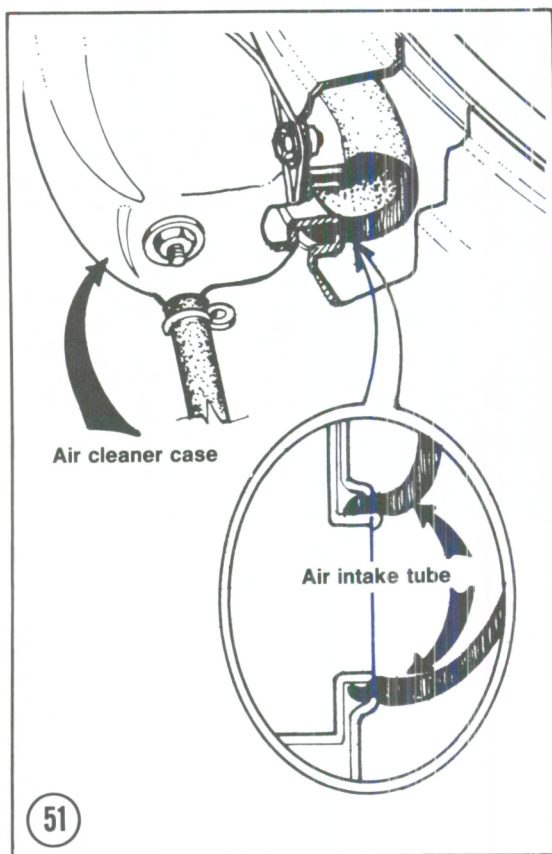
4. Clean and inspect the element as described in this chapter.
5. Wipe out the interior of the air filter case with a shop rag dampened in cleaning solvent. Remove any foreign matter that may have passed through a broken element.
6. Assemble and install the element by reversing these steps. Make sure the filter cover is correctly seated onto the filter housing on the carburetor.

ATC90; 1979-1982 ATC110

1. Place the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Remove the screws securing the air filter case (A, **Figure 48**) to the frame.



- 4A. On 1981-1982 ATC110 models, loosen the screw (B, **Figure 48**) on the clamping bands securing the air filter case to the carburetor.
- 4B. On all other models, remove the nut at the rear of the filter case.
5. Remove the air filter assembly and case from the frame.
- 6A. On 1981-1982 ATC110 models, remove the nut (**Figure 49**) at the rear of the filter case and withdraw the element assembly.
- 6B. On all other models, remove the nut at the rear of the filter bolt and withdraw the element assembly.
- 7A. On 1982 ATC110 models, carefully slide the foam element off of the paper element assembly (**Figure 50**).
- 7B. On all other models, carefully slide the foam element off the element assembly.
8. Clean and inspect the element(s) as described in this chapter.
9. Wipe out the interior of the air filter case with a shop rag dampened in cleaning solvent. Remove



any foreign matter that may have passed through a broken element.

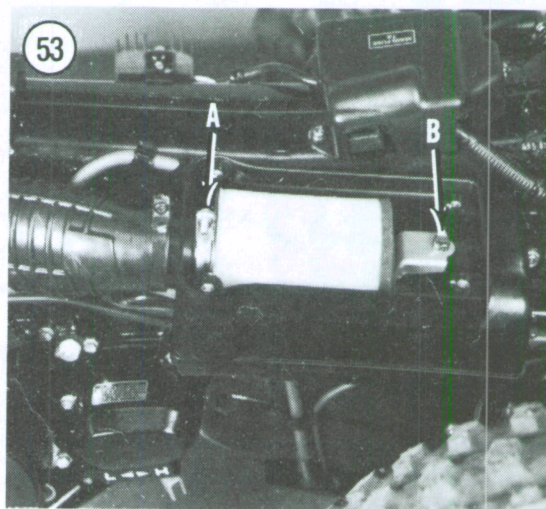
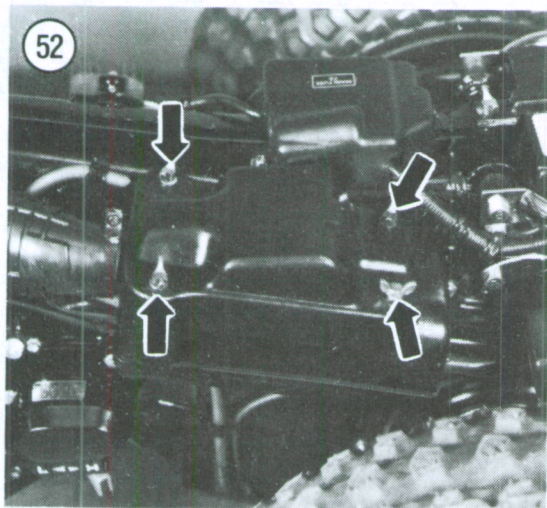
10. Assemble and install the element by reversing these steps, noting the following.

11A. On 1982 ATC110 models, make sure the air intake tube fits correctly into the opening in the air filter case assembly (**Figure 51**).

11B. On all other models, make sure the filter cover is correctly seated onto the filter housing on the carburetor.

1983-on ATC110; ATC125M

1. Place the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Remove the wing nuts (**Figure 52**) securing the air filter case cover and remove the cover.
4. Loosen the screw (A, **Figure 53**) on the clamping band securing the air filter assembly to the carburetor.
5. Remove the wing nut (B, **Figure 53**) securing the air filter assembly to the air box.
6. Remove the air filter assembly from the air box.
7. Carefully slide the foam element off the element assembly.



8. Clean and inspect the element as described in this chapter.

9. Wipe out the interior of the air box with a shop rag dampened in cleaning solvent. Remove any foreign matter that may have passed through a broken element.

10. Assemble and install the element by reversing these steps.

Foam Air Filter Element Cleaning and Inspection

1A. On 1982 ATC110 models, gently wash the element in liquid detergent and water. Rinse thoroughly in clean water. Repeat if necessary until the element is clean. Let the element dry for about one hour.

1B. On all other models, clean the element gently in cleaning solvent until all dirt is removed. Thoroughly dry in a clean shop cloth until all solvent residue is removed. Let it dry for about one hour.

NOTE

Inspect the element; if it is torn or broken in any area it should be replaced. Do not run with a damaged element as it may allow dirt to enter the engine.

2. On all models except the 1982 ATC110, pour a small amount of SAE 80 or SAE 90 gear oil or special foam air filter oil onto the element and work it into the porous foam material. Do not oversaturate the element as too much oil will restrict air flow. The element will be discolored by the oil and should have an even color indicating that the oil is distributed evenly. Let it dry for

another hour prior to installation. If installed too soon, the chemical carrier in the special foam air filter oil will be drawn into the engine and may cause damage.

Paper Air Filter Element Cleaning and Inspection

1. Gently tap the paper filter assembly to loosen the dust and dirt.

2. Apply compressed air to the *inside* of the element to remove all loosened dirt and dust from the element.

3. Tap the element again and repeat Step 2 until all loose dust and dirt is removed.

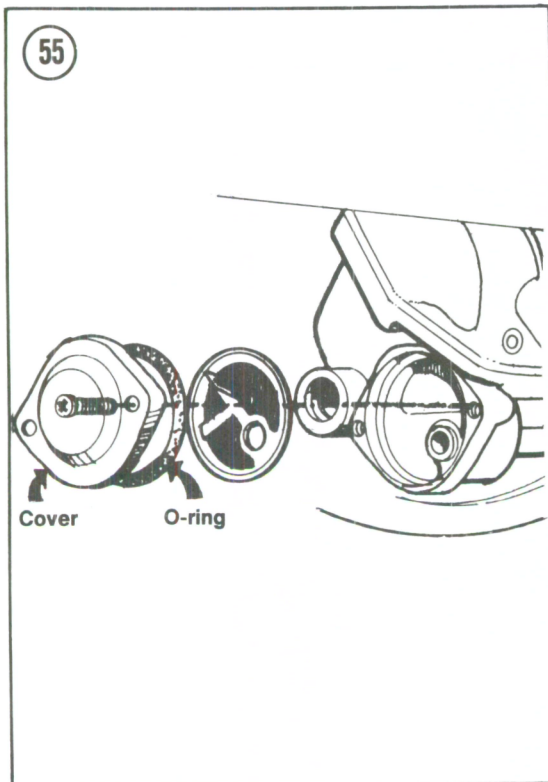
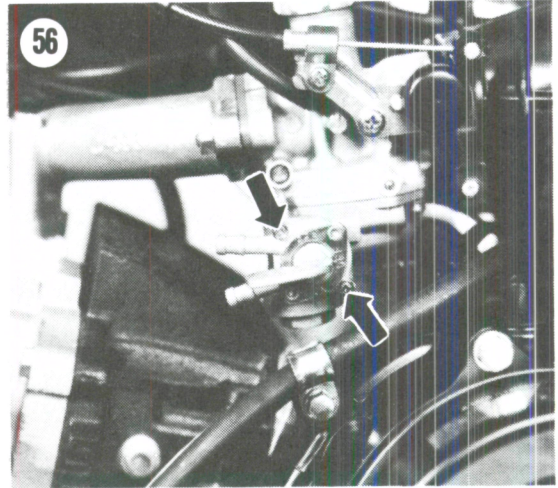
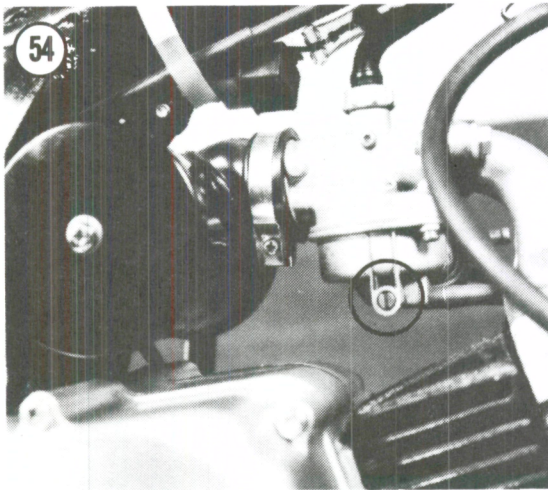
NOTE

If the paper element is extremely dirty, wash it in a solution of liquid detergent and water. Rinse thoroughly in clean water and allow to dry thoroughly. If it does not come clean, replace the foam and paper elements as a set.

4. Inspect the element; if it is torn or broken in any area it should be replaced. Do not run with a damaged element as it may allow dirt to enter the engine.

Fuel Filter Cleaning

The integral fuel filter in the carburetor or in the fuel shutoff valve removes particles in the fuel which might otherwise enter the carburetor. This could cause the float needle to stay in the open position or clog one of the jets.



1973-1974 ATC70; ATC90

1. Turn the fuel shutoff valve to the S or OFF position.
2. Place the loose end of the drain tube into a clean, sealable metal container. If the fuel is kept clean, it can be reused.
3. Loosen the drain screw knob or the drain screw (Figure 54) and drain all gasoline from the carburetor.

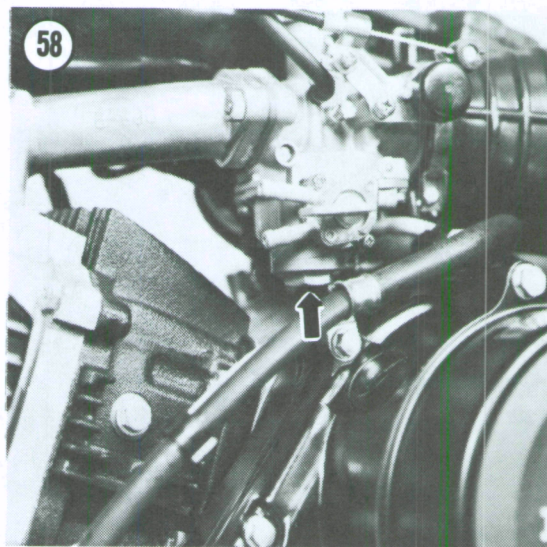
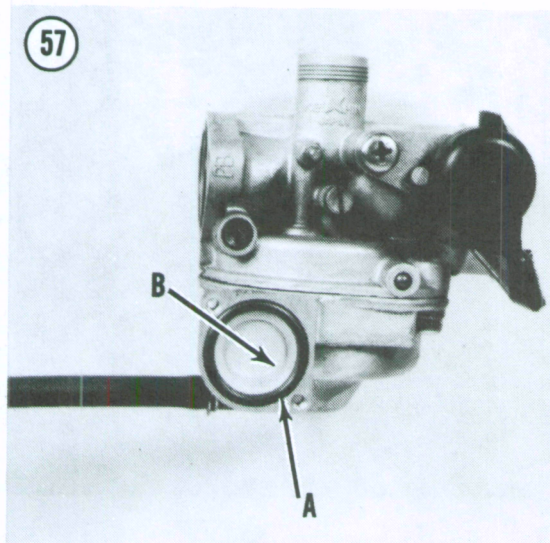
4. Remove the screws securing the cover and remove the cover, O-ring and filter screen (Figure 55) from the carburetor float chamber.
5. After removing the filter screen, insert a corner of a clean shop rag into the opening in the carburetor to stop the dribbling of fuel onto the engine and frame.
6. Clean the filter screen with a medium soft toothbrush and blow out with compressed air. Replace the filter screen if it is defective.
7. Install by reversing these removal steps, noting the following.
8. Do not forget to install the O-ring between the cover and the carburetor float bowl.
9. Turn the fuel shutoff valve to the ON position and check for fuel leakage after installation is completed.

1978-on ATC70; ATC110; ATC125M

NOTE

Some of the photos in this procedure show the carburetor removed for clarity. It is not necessary to remove the carburetor for this procedure.

1. Turn the fuel shutoff valve to the OFF position.
2. Place the loose end of the drain tube into a clean, sealable metal container. If the fuel is kept clean, it can be reused.
3. Loosen the drain screw and drain all gasoline from the carburetor.
- 4A. On ATC70 and 1979-1983 ATC110 models, perform the following:
 - a. Remove the screws (Figure 56) securing the fuel shutoff valve to the carburetor and remove the valve.



b. Remove the O-ring (A, **Figure 57**) and the filter screen (B, **Figure 57**).

4B. On 1984 ATC110 and ATC125M models perform the following:

a. Unscrew the fuel cup (**Figure 58**) from the base of the carburetor float bowl.

b. Remove the fuel cup, filter screen and O-ring seals from the carburetor (**Figure 59**).

5. After removing the valve, insert a corner of a clean shop rag into the opening in the carburetor to stop the dribbling of fuel onto the engine and frame.

6. Clean the filter screen with a medium soft toothbrush and blow out with compressed air. Replace the filter screen if it is defective.

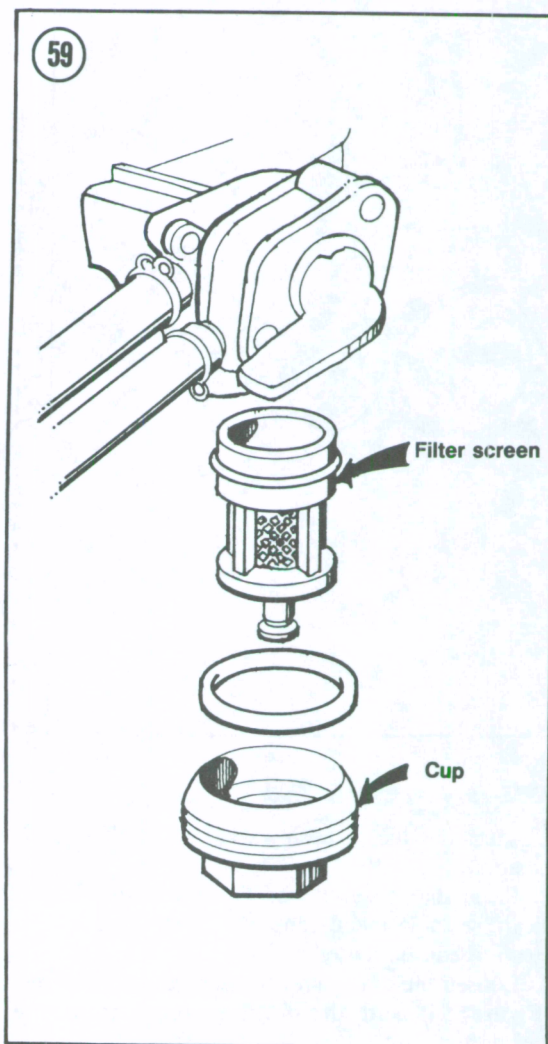
7. Inspect all parts for wear, damage or deterioration.

8. Install by reversing these removal steps, noting the following.

9. On ATC70 and 1979-1983 ATC110 models, install the filter screen with the cupped face in toward the carburetor body (**Figure 60**).

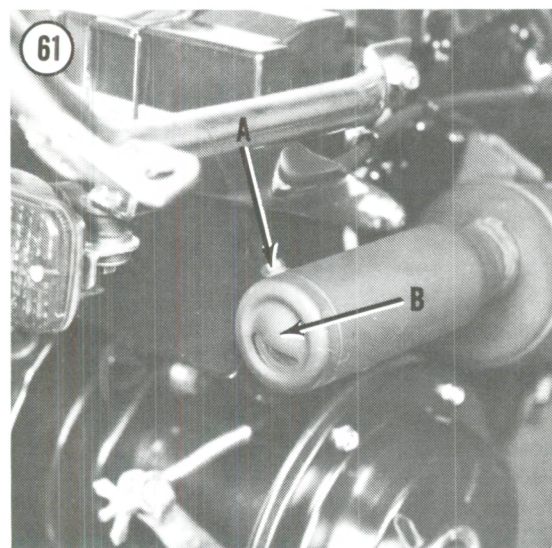
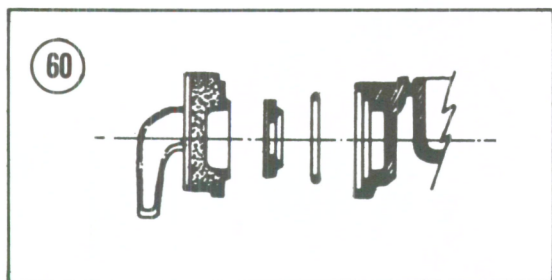
10. Do not forget to install the O-ring between the valve or cup and the carburetor float bowl.

11. Turn the fuel shutoff valve to the ON position and check for fuel leakage after installation is completed.



Fuel Line Inspection

Inspect the fuel line from the fuel tank to the carburetor. If it is cracked or starting to deteriorate it must be replaced. Make sure the small hose clamps are in place and holding securely.

**WARNING**

A damaged or deteriorated fuel line presents a very dangerous fire hazard to both the rider and the vehicle if fuel should spill onto a hot engine or exhaust pipe.

Spark Arrester Cleaning

The spark arrester should be cleaned every 30 operating days.

WARNING

To avoid burning your hands, do not perform this cleaning operation with the exhaust system hot. Work in a well ventilated area (outside your garage) that is free of any fire hazards. Be sure to protect your eyes with safety glasses or goggles.

1. Place the ATC on level ground and set the parking brake.
2. Remove the bolt (A, **Figure 61**) securing the spark arrester and slide the unit out of the tailpipe (B, **Figure 61**).

3. Clean off accumulated carbon from the spark arrester with a scraper and wash off with solvent. Thoroughly dry with compressed air.

4. With the spark arrester removed, start the engine and rev it up a few times to blow out accumulated carbon from the tail section of the muffler. Continue until carbon stops coming out.

5. Turn the engine off and let the exhaust system cool down.

6. Install the spark arrester and install the bolt.

Wheel Bearings

There is no factory-recommended interval for cleaning and repacking the wheel bearings. They should be serviced whenever they are removed from the wheel hub or whenever there is the likelihood of water contamination (especially salt water). Service procedures are covered in Chapter Eight.

Steering Head Adjustment Check

The steering head is fitted with loose ball bearings. It should be checked every year of operation or after a serious spill.

Place the ATC up on wood block(s) so the front wheel is off the ground.

Hold onto the front fork tubes and gently rock the fork assembly back and forth. If you can feel looseness, refer to Chapter Eight.

Nuts, Bolts and Other Fasteners

Constant vibration can loosen many of the fasteners on the ATC. Check the tightness of all fasteners, especially the following:

- a. Engine mounting hardware.
- b. Engine crankcase covers.
- c. Handlebar and front forks.
- d. Gearshift lever.
- e. Brake pedal and lever.
- f. Exhaust system.

ENGINE TUNE-UP

A tune-up is general adjustment and maintenance to ensure peak engine performance. A complete tune-up should be performed every 30 operating days with normal riding. More frequent tune-ups may be required if the ATC is ridden hard or raced.

Table 5 summarizes tune-up specifications.

The spark plug should be routinely replaced at every other tune-up or if the electrodes show signs of erosion. Have new parts on hand before you begin.

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